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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/576,446	05/18/2006	Esko Saarela	1497-132	6295

23117 7590 08/19/2009

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EXAMINER	
LU, JIPING	

ART UNIT	PAPER NUMBER
3743	

MAIL DATE	DELIVERY MODE
08/19/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/576,446	SAARELA ET AL.	
	Examiner	Art Unit	
	Jiping Lu	3743	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 May 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7,9-11,13 and 19-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7,9-11,13,19-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *5/21/09*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claims Status

1. Claims 1-7, 9-11, 13 and 19-22 are now in the case. Non-elected claims 14-18 have been cancelled without prejudice in favor of divisional application(s). Claims 8 and 12 have been cancelled.

Claim Rejections - 35 USC § 103

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 7, 9-11 and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kopp-Sorensen (EP 0552583) in view of Mason (GB 283,014).

Kopp-Sorensen shows an apparatus for drying bulk material comprising a drying space (within 9), at least one gas heating device 25, a blower 30 located outside the drying space, which blower 30 is arranged to blow gas into the drying space via said gas heating device 25, several drying conveyors 8 located in the drying space, through which drying conveyor the heated gas is arranged to travel, connectors (not number, see Fig. 2, at lower part of 25) for conducting water into and out of the gas heating device 25, which gas heating device 25 is arranged to heat gas with water and simultaneously to cool water with said gas. The drying apparatus of Kopp-Sorensen above shows an over all combination of conventional use of recovered waste heat from waste water 25 to heat gas for drying except for a chain conveyor with its detail structure. Mason teaches a drying apparatus with a chain conveyor 11 same as

claimed. The chain conveyor 11 is equipped with a drive apparatus 19 and a wire 17 supported by the chain conveyor and running on the chain conveyor 11. The heated gas is arranged to travel through a bed of material to be dried lying on the wire 17 and through the wire 17 (page 2, lines 57-96). The wire 17 and the chain conveyor 11 are substantially equal in width. The chain conveyor 11 has two chains 13 and, between these, wire support members 14. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the drying apparatus of Kopp-Sorensen to substitute the chain conveyor with two chains, wire and wire support members of Mason for the conveyor of Kopp-Sorensen in order to pursue an intended use. With regard to the claimed width of wire in claim 10, it would have been obvious to one having ordinary skill in the art at the time the invention was made to design the width of wire at any desired size in order to pursue an intended use, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233. With regard to newly added claims 19 and 20, since the claims do not include any specific structure regarding "paper mill or pulp production process", therefore, the examiner has interpreted the heated waste water 25 is capable to be obtained from "paper mill or pulp production process" because it is well known in the art to recover waste or sensible heat from anywhere in order to save energy, including waste heat from "paper mill or pulp production process".

4. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kopp-Sorensen (EP 0552583) in view of Dinh (U. S. Pat. 5,343,632) or Lambert (U. S. Pat. 4,490,924).

The drying apparatus of Kopp-Sorensen above includes all that is recited in claim 13 except for the gas heating device is arranged inside the drying space. Dinh teaches a drying apparatus with at least one gas heating device 760 arranged inside the drying space (see Fig. 7) same as claimed. Lambert teaches a drying apparatus with at least one gas heating device 21 arranged inside the drying space 17 same as claimed. Therefore, it would have been obvious to one having ordinary in the art at the time the invention was made to modify the drying apparatus of Kopp-Sorensen to locate the gas heating device inside the drying space as taught by Dinh or Lambert in order to pursue an intended use.

5. Claims 1, 4-6 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lambert (U. S. Pat. 4,490,924) in view of Salokangas (GB 2171401A).

Lambert shows a method for drying bulk material comprising the steps of conveying the material to be dried by means of conveyor 11 located in the drying space 12-17, feeding gas 19 into the drying space, heating the gas (by heat exchanger 21), conducting the heated gas through the drying conveyor 11 conveying the material to be dried, conducting the gas that has passed through the drying conveyor 11 out of the drying space (thru exhaust 22). The gas 19 is heated with water whereby said water is simultaneously cooled. The gas to be heated is air (see Fig. 1). The temperature of the heated gas is 150°F which is within the range of 35-85°C. The gas is heated in the heat exchanger 21 in the drying space. Lambert discloses the claimed invention except for the gas is heated with waste water produced in a pulp or paper production process. Salokangas teaches a concept of using waste water for heating air thru a heat exchanger 5 same as claimed (see abstract). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the drying method of Lambert to include the

step of heating the gas with waste water as taught by Salokangas in order to conserve energy and save cost. With regard to the claimed using waste water produced in a pulp or paper production process, it would have been an obvious matter of use of a known product (waste water results from pulp or paper production process) in order to obtain a predictable result and pursue an intended use, since applicant has not disclosed that the claimed using of waste water from pulp or per production process solves any stated problem in a new or unexpected way or is for any particular purpose which is unobvious to one of ordinary skill in the art and it appears that the claimed feature does not distinguish the invention over similar features in the prior art since, the drying method of Lambert as modified by Salokangas will perform the invention as claimed by the applicant with the using of any kind of the waste water. With regard to newly added claim 21, the claimed intended use, e.g. drying barks, sawdust, pretreated sludge or mixtures, this intended use is deemed to be met by Lambert's infeed 12 of material, like tobacco leaves.

6. Claims 2-3 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lambert (U. S. Pat. 4,490,924) in view of Salokangas (GB 2171401A) as applied to claim 1 as above, and further in view of Mason (GB 283,014).

The drying method of Lambert as modified by Salokangas as above includes all that is recited in claims 2-3 except for a chain conveyor for conveying material to be dried. Mason teaches a drying method which uses a chain conveyor 11 for conveying the material to be dried same as claimed. The chain conveyor 11 is equipped with a drive apparatus 19 and a wire 17 supported by the chain conveyor and running on the chain conveyor 11. The heated gas is arranged to travel through a bed of material to be dried lying on the wire 17 and through the wire 17 (page 2, lines 57-96). The wire 17 and the chain conveyor 11 are substantially equal in width.

The chain conveyor 11 has two chains 13 and, between these, wire support members 14. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the drying method of Lambert to include a step of conveying the material to be dried by a chain conveyor as taught by Mason in order to pursue an intended use. With regard to the newly added claim 22, it would have been obvious to one having ordinary skill in the art at the time the invention was made to move the chain conveyor of Lambert at the speed of 0.02-0.1 meters per second, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

Response to Arguments

7. Applicant's arguments filed 5/21/09 have been fully considered but they are not persuasive to overcome the rejection. First, it is noted that the broad claims presented fail to define over the prior art references. The broad claims merely call for using or recovering waste or sensible heat from a pulp or paper production process to heat bulk material on a perforated conveyor in order to save energy. This is a common practice in the heating art. The prior art references of record clearly shows such concept. The examiner is not convinced that such broad claims as presented are patentable over the prior art references. Moreover, the applicant is invited to point out from the broad claims if there is any structural or process difference that the prior art references fail to teach or show. Second, on pages 10-12 of the Remarks, the applicant argues that the combination of the prior art patents to Kopp-Sorensen, Lambert, Salokangas do not teach the use of heat derived from waste water in order to dry bilk material. The examiner totally

disagrees with the applicant because it is well known in the art to use waste or sensible heat from waste water or waste gases to heat bulk material in order to save energy. The applicant can not deny this well known concept. With regard to the waste water obtained from "pulp or paper production process", the examiner is not convinced the broad claims presented are patentable because there is no structure defined in the broad claims regarding "pulp or paper production process". The examiner has considered the waste water in the prior art references can be obtained from waste water of "pulp or paper production process" if one desires. The arguments regarding insufficient heat to dry bulk material in Lambert are also not persuasive because the broad claims 1 and 7 mention nothing about temperature sufficiency. Finally, in view of the combined teaching of the prior art references, one skilled in the art would have found it to be obvious to combine because the recovery of waste or sensible heat, would have been predictable (see KSR International Co. v. Teleflex, Inc. 82 USPQ 2d 1385 (2007).

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jiping Lu whose telephone number is 571 272 4878. The examiner can normally be reached on Monday-Friday, 9:00 AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, KENNETH RINEHART can be reached on 571-272-4881. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jiping Lu/
Primary Examiner
Art Unit 3743

J. L.